Annex No. 5

to Ordinance No. 21/2019

**COURSE/MODULE SYLLABUS FOR UNIVERSITY COURSES/PhD STUDIES**

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|  | Course/module name in Polish and English  Informatics and geostatistics in geological sciences/Informatyka i metody statystyczne w geologii | | |
|  | Discipline  Earth and Environmental Science | | |
|  | Language of instruction  English | | |
|  | Teaching unit  Faculty of Earth Science and Environmental Management, Institute of Geological Sciences, Department of Economic Geology | | |
|  | Course/module code  USOS | | |
|  | Type of course/module *(mandatory or optional)*  optional | | |
|  | Field of studies (major, if applicable)  Geology (spec. Applied Geoscience) | | |
|  | Level of higher education *(undergraduate (I cycle), Master’s (II cycle), 5 year uniform Master’s studies)*  Master’s (II cycle) | | |
|  | Year of studies *(if applicable*)  I | | |
|  | Semester *(winter or summer)*  winter | | |
|  | Form of classes and number of hours  Lectures: 14  Classes: 24  Teaching methods  Multimedia lecture, mini-lecture, presentation, discussion, practical exercises, individual work. | | |
|  | Name, title/degree of the teacher/instructor  Coordinator: Prof. dr hab. Andrzej Solecki  Lecturer: Prof. dr hab. Andrzej Solecki, Dr Dagmara Tchorz-Trzeciakiewicz  Classes instructor: Prof. dr hab. Andrzej Solecki, Dr Dagmara Tchorz-Trzeciakiewicz | | |
|  | Course/module prerequisites, in terms of knowledge, skills, social competences  Basic knowledge of mathematics and computer literacy. | | |
|  | Course objectives  Giving students the basic knowledge of statistics and training in skills of worksheets and maps creation. | | |
|  | Course content  Lecture  Descriptive statistics. Correlation and regression. Nonparametric statistics. Hypothesis testing. Statistical treatment of the orientation data. Analysis of spatial data.  Classes  Creating worksheets performing simple statistical analysis in Excel. Creating maps using Surfer, Calculations of volumes and surface areas (program Surfer). | | |
|  | Intended learning outcomes  P\_W01 The student knows the basic statistical concepts.  P\_W02 The student is able to effectively use the statistical function of the Excel program.  P\_U01 Students can create maps in Surfer.  P\_K01 He can evaluate the risks and the degree of risk of error in identifying processes and natural objects. | Symbols of learning outcomes for particular fields of studies, *e.g. K\_W01\**, *K\_U05,K\_K03*  K2\_W02, K2\_W04, K2\_W05,  K2\_W06  K2\_U01, K2\_U03, K2\_U05  K2\_K05 | |
|  | Required and recommended reading *(sources, studies, manuals, etc.)*  Required reading  Davis J.C. 1986: Statistics and Data Analysis in Geology. John Wiley and Sons. p. 646  Clark I. Practical Geostatistics, 1979  Recommended reading  Internet sources and helps of Excel and Surfer | | |
|  | Assessment methods for the intended learning outcomes:  Lecture: written test. K2\_W02, K2\_W04, K2\_W05,  Classes: written test, individual project. K2\_W06, K2\_U01, K2\_U03, K2\_U05, K2\_K05 | | |
|  | Credit requirements for individual components of the course/module:  Lecture:  - written test – pass - above 50% points.  Classes:  - attendance is obligatory,  - individual or group project,  - written test,  - final report.  Final grade – 50 % lecture+ 50% lab classes. | | |
|  | Total student effort | | |
| form of student activities | | number of hours for the implementation of activities |
| classes (according to the plan of studies) with a teacher/instructor:  - lectures: 14  - lab classes: 24  - consultation: 17 | | 55 |
| student's own work (including group-work) such as:  - reading the suggested literature: 10  - preparing papers/presentations/projects:10  - preparing for tests and exam: 25 | | 45 |
| Total number of hours | | 100 |
| Number of ECTS credits | | 4 |